

## AMENDMENTS TO THE CLAIMS

### **Claims 1-43 (Canceled)**

**Claim 44 (Currently Amended)** A method ~~semiconductor manufacturing system~~ for producing a substrate to be treated using ~~including~~ a controller for controlling an operation of the semiconductor manufacturing system by carrying out a control program, ~~according to the following events comprising:~~

- a standby event ~~for~~ charging a substrate in a boat;
- a boat-up event ~~for~~ loading the boat in a reactor by raising an elevator;
- a ramping-up event ~~for~~ gradually raising a temperature;
- a process event ~~for~~ forming a film on the ~~a~~ substrate;
- a ramping-down event ~~for~~ gradually decreasing the ~~a~~ temperature;
- a boat-down event ~~for~~ drawing the boat from the reactor by lowering the elevator; and
- a standby event ~~for~~ discharging the substrate from the boat;

wherein the controller ~~includes functions for~~ further performs the functions of:

determining a timing at which the control program can be changed;

storing a new control program in a memory, in accordance with a result of said determining, so as to be carried out with a processor, wherein said ~~the~~ process event for forming a film on the substrate is not determined as the timing for changing the control program; and

holding prior data used to carry out a prior control program so as to carry out the new control program stored in the memory with the processor by employing the prior data.

**Claim 45 (Currently Amended)** The method ~~semiconductor manufacturing system~~ according to Claim 44, wherein the controller ~~includes a function to temporarily~~ holds ~~hold~~ the control program so as to store the control program held in the buffer in the memory.

**Claim 46 (Currently Amended)** The method ~~semiconductor manufacturing system~~ according to Claim 44, wherein the control program of the controller is changed while a temperature is in a constant state the same as a state of which the reaction chamber is in a standby state.

**Claim 47 (Currently Amended)** The method ~~semiconductor manufacturing system~~ according to Claim 44, wherein the standby event ~~for~~ charging the substrate to the boat is determined as the timing for changing the control program.

**Claim 48 (Currently Amended)** The method ~~semiconductor manufacturing system~~ according to Claim 44, wherein the boat-up event ~~for~~ loading the boat in a reactor by raising an elevator is determined as the timing for changing the control program.

**Claim 49 (Currently Amended)** The method ~~semiconductor manufacturing system~~ according to Claim 44, wherein the ~~a~~ boat-down event ~~for~~ drawing the boat from the reactor by lowering the elevator is determined as the timing for changing the control program.

**Claim 50 (Currently Amended)** The method ~~semiconductor manufacturing system~~ according to Claim 44, wherein the ~~a~~ standby event for discharging the substrate from the boat is determined as the timing for changing the control program.

**Claim 51 (Currently Amended)** A method ~~semiconductor manufacturing system~~ for producing a substrate to be treated using ~~comprising~~ a controller for controlling an operation of the semiconductor manufacturing system by carrying out a control program, ~~the controller including functions for~~ and for changing the control program including:

holding prior data used for carrying out a prior control program;

temporarily holding a new control program;

receiving an instruction as to an input of a control program change from a user; and

storing the new control program in a memory, so that it can be carried out by a processor, according to the instruction;

changing wherein the control program is changed at a timing when the controller to which the control program is supplied is does not carrying carry out a control process and of the operation of the semiconductor manufacturing system;

the new control program stored in the memory with the process by employing the prior data.

**Claim 52 (Currently Amended)** A method semiconductor manufacturing system according to Claim 51, wherein the control program is changed at a timing when the semiconductor manufacturing system itself is standing by or has suspended operation.

**Claim 53 (Currently Amended)** A method semiconductor manufacturing system according to Claim 51, wherein the controller is a temperature controller and the a control program of the temperature controller is changed at a timing when the temperature in the reaction chamber is constant and the same as a standby state.

**Claim 54 (Currently Amended)** A method semiconductor manufacturing system according to Claim 51, wherein the controller is a mechanical controller and the control program of the mechanical controller and the control program of the mechanical controller is changed at a timing when a robot arm or an elevator is stopped.

**Claim 55 (Currently Amended)** A method semiconductor manufacturing system according to Claim 51, wherein the controller is a gas controller and the control program is changed at a timing when no gas is supplied to a the reaction chamber.

**Claim 56 (New)** A semiconductor manufacturing system for producing a substrate to be treated, said system comprising a controller for controlling operation of the semiconductor

manufacturing system by carrying out a control program that is stored in memory, said control program being operable to carry out the following events:

- a standby event charging a substrate in a boat;
- a boat-up event loading the boat in a reactor by raising an elevator;
- a ramping-up event gradually raising a temperature;
- a process event forming a film on the substrate;
- a ramping-down event gradually decreasing the temperature;
- a boat-down event drawing the boat from the reactor by lowering the elevator; and
- a standby event discharging the substrate from the boat;

wherein said controller is configured to carry out the functions of:

determining a timing at which the control program can be changed;

storing a new control program in a memory, in accordance with a result of said determining, so as to be carried out with a processor, wherein said process event for forming a film on the substrate is not determined as the timing for changing the control program; and

holding prior data used to carry out a prior control program so as to carry out the new control program stored in the memory with the processor by employing the prior data.

**Claim 57 (New)**      The semiconductor manufacturing system according to Claim 56, wherein the controller includes a function to temporarily hold the control program so as to store the control program held in the buffer in the memory.

**Claim 58 (New)**      The semiconductor manufacturing system according to Claim 56, wherein the control program of the controller is changed while a temperature is in a constant state same as a state of which the reaction chamber is in a standby state.

**Claim 59 (New)**      The semiconductor manufacturing system according to Claim 56, wherein the standby event for charging the substrate to the boat is determined as the timing for changing the control program.

**Claim 60 (New)**      The semiconductor manufacturing system according to Claim 56, wherein the boat-up event for loading the boat in a reactor by raising an elevator is determined as the timing for changing the control program.

**Claim 61 (New)**      The semiconductor manufacturing system according to Claim 56, wherein a boat-down event for drawing the boat from the reactor by lowering the elevator is determined as the timing for changing the control program.

**Claim 62 (New)**      The semiconductor manufacturing system according to Claim 56, wherein a standby event for discharging the substrate from the boat is determined as the timing for changing the control program.